

City of Cambridge Stormwater Management Program

Phase II NPDES
Stormwater Management Program
Public Meeting
March 28, 2013

Overview



- **National Pollutant Discharge Elimination System (NPDES) permit program authorized by the Clean Water Act (CWA)**
- **1999: Phase II NPDES Stormwater Management Program**
 - Regulates stormwater discharges from small Municipal Separate Storm Sewer Systems (MS4)
 - Initial Notice of Intent submitted July 2003
 - Currently Completing Year 10
 - Awaiting release of new 5-year permit

Pollutants

Trash

Heavy Metals

Nutrients

Sediment

Pathogens

Oil & Grease



Stormwater Management Program

- Address 6 Minimum Control Measures
 1. Public education/outreach
 2. Public involvement/participation
 3. Illicit discharge detection/elimination
 4. Post-construction stormwater management
 5. Construction Site stormwater runoff control
 6. Pollution prevention/good housekeeping for municipal operations
- Develop and implement Best Management Practices to address each program area

Program Objective

Fishable and Swimmable



Reduce discharges of pollutants from a regulated stormwater system (MS4) to the *maximum extent practicable*, to protect water quality.

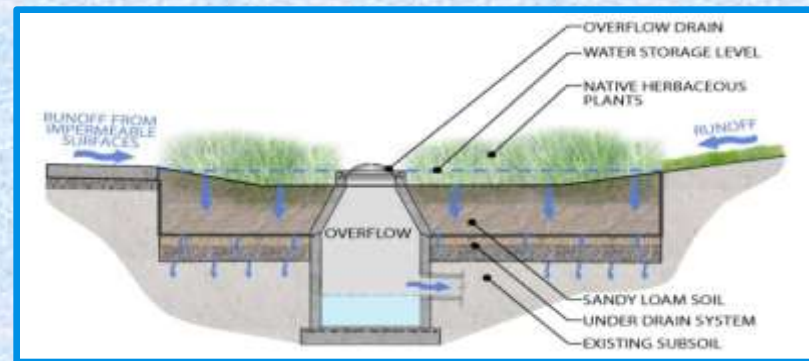


Runoff Discharges
to Nearby Waters



#1. Public Education & Outreach

- Huron B design process
 - Extensive outreach on water quality and LID practices
 - 11 Community Meetings and tree walks
- Concord Ave design process
 - Began design process in December 2012, (2 community meetings)
- Rain Barrel Promotion — June 7, 2012
 - Displays around City — DPW, City Hall, Water Dept.
 - Fresh Pond Day — Water Dept Ranger Station
 - Partnered with Green Cambridge for installation
- Curb Marker installations
- FAR Park Serve Day — April 2012

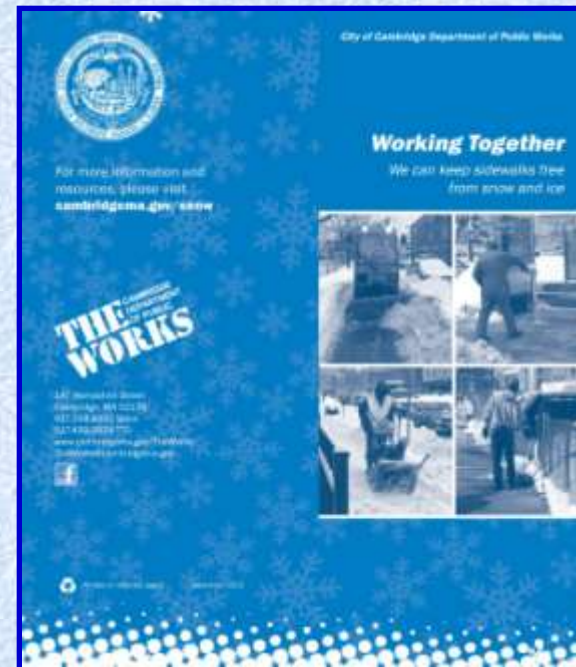


#1. cont. Public Education & Outreach

- Web Site updates
- EnviroScape demonstrations
 - DPW Road Show – May 21
- CityView articles
- Snow Brochure



EnviroScape



#2. Public Participation & Involvement

- Stormwater Wetland Public Planting Day – July 14
- FAR Summer Ecology Camp – (August 1)
- Household Hazardous Waste Collection (3)
- GoGreen Awards – May 22, 2012
 - Mystic River Watershed Association
- Fresh Pond Monday Tours
- Annual Meeting



GoGreen – Mystic River Watershed Association

Stormwater wetland planting
Volunteers



#3. Illicit Discharge Detection & Elimination



Prohibit, identify and remove illicit connections and discharges

- Water quality sampling
 - Charles –Dry, wet, Oil & Grease
 - Alewife - Dry, wet, Oil & Grease
- Illicit Connections Identification/Removal
 - 3 identified and removed [Pearl Street (2), Franklin St (1)]
- Automatic Sampling Stations
 - 3 designed in Year 8 (Harrison Ave, Stormwater Wetland, Western Ave)



#4. Construction Site Runoff Control

Reduce pollutants from construction sites that disturb ≥ 1 acre and significant projects



- Stormwater Control Permits – Erosion Control Plan – 25
- Weekly meetings with large contractors during March – Nov
- Number of active construction sites inspected - 57
- Total number of erosion & sediment control inspections – 221
- WARNING tickets issued – 15
- Presentation to contractors - 2

A form from the City of Cambridge, Department of Public Works. It is titled "STORMWATER CONTROL PERMIT" and "EROSION CONTROL PLAN". The form contains various fields for project information, including "PROJECT LOCATION", "PROJECT DESCRIPTION", and "PERMITTER INFORMATION". It also includes a section for "PERMIT CONDITIONS" and a "CITY OF CAMBRIDGE" logo at the bottom.

THE WORKS
CAMBRIDGE
DEPARTMENT
OF PUBLIC
WORKS

Don't dump into drains!



Contractor is responsible for all sediment, dewatering, and discharge from construction site.

Erosion and Sediment Control

Get a dewatering permit from EPA / MWRA and City of Cambridge before dewatering

Stabilized construction entrance/exit and Street Sweeping reduce storm water pollution



Erosion and Sediment Control

No washing concrete into the street/ tree wells/ drains



Good example of Concrete Wash Out with designated site



Construction Best Practices



#5. Post Construction Stormwater Management



Address runoff from significant new and redevelopment projects through the use of BMPs

- Stormwater Control Permit's reviewed - 25
- Post Construction BMP Inspections - 23
- Database maintained for private BMP facilities



23 Sidney Street – Green Roof



Manhole Inspection



211 + 311 Alewife Brook Par
Drainage swale

Private Development Stormwater Management Requirements

- (a) Store on site the difference between the 2 yr 24 hr preconstruction runoff and the 25 yr 24hr post construction runoff
- (b) Manage stormwater runoff such that there is a reduction of 80% TSS from site and a 65% reduction of P from Site.
- (c) Manage sewer discharge so as to ensure no increase in CSOs or SSOs.





#6. Pollution Prevention & Good Housekeeping for Municipal Operations

- Street Sweeping– mechanical and vacuum

- 1520 tons of street sweeping debris
- 1859 catch basins cleaned (450 tons)



Street Sweeping

- Stormwater Projects

- ✓ Porous Asphalt – Huron A – in construction
- ✓ Rain Gardens – Huron A – in construction
- ✓ Stormwater Wetland – Alewife – in construction
- ✓ USGS Vacuum Sweeping study – completed



Porous Pavement

- Trees Planted – 346

- Municipal Facility Inspections

- ✓ 156 +/- total facilities
- ✓ 43 +/- in separated areas
- ✓ 107 inspected Year 10 (to date)



Stormwater Wetland

Capital Improvement Projects during Year 10

- CambridgePark Drive Area Drainage Improvements and Stormwater Wetland Project **construction**
- Myrtle/Magnolia Stormwater Management **construction**
 - Reduce severity and frequency of flooding including a stormwater storage tank on Hovey Ave
- Frost Street Project Area Sewer Separation – Phase II
 - Forest St and portions of Frost and Oxford **construction**
- Western Ave Sewer Separation/Stormwater Mgmt **construction**
- Huron A Sewer Separation/Stormwater Mgmt **construction**
- Fawcett Street **construction**
- Common Manhole Contract 7 (last 31 CMHs) **designed and bid**
- Huron B **design**
- Concord Ave Neighborhood **design**
- Binney Street Outfall **Construction**

Capital Projects – Western Ave



Capital Projects - Stormwater Wetland



Highlights for next permit year

- Huron B Sewer Separation (81 acres)
construction
- Concord Ave Sewer Separation (60 acres)
construction
- Common Manholes Contract 7
- Western Ave construction
- Climate Adaptation Plan study ongoing
- Frost St Area Sewer Separation (Phase III) construction
- Binney Street Stormwater Management construction



What we anticipate for the New NPDES Permit

- Re-Issue Draft Permit – Spring 2013 ??
- Similar to Draft NH Permit (comment period ends April 15th)
 - Water Quality Response Plan for Impaired Waters (without a TMDL)
 - ID Source of impairment
 - ID BMPs
 - Implement BMPs
 - Assess effectiveness and modify BMPs
 - Water Quality Response Plan for Impaired Waters (TMDL)
 - Phosphorous Control Plan
 - Targeted Public Education (residents, business/commercial, developers, industrial facilities)
 - Public Review of SWMP
 - Wet and Dry Weather sampling – defined catchment areas and prioritization



Comments/Questions